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Bibliography.

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Summary.

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(57) [Abstract] (******)
[Technical problem] Pattern change performed behind the pattern under change to a game person or after this offers the game machine in which making the expectation stopped in the specific state able to hold can be continued.
[Means for Solution] It has an information means to by_which the information relevant to the probability that pattern change will stop in the specific state can be reported, and control means perform the aforementioned judgment based on the probability which chose the probability stopped in the aforementioned specific state from two or more probability set up beforehand, stored it one by one, and stored it first, even before performing a judgment from the operation start of a game machine. [two or more] on the other hand, the probability stored is searched under predetermined conditions, the highest probability is chosen, and it is this **** — the information relevant to the probability stopped in the aforementioned specific state is determined, and the this determined information is made to report to the aforementioned information means based on probability

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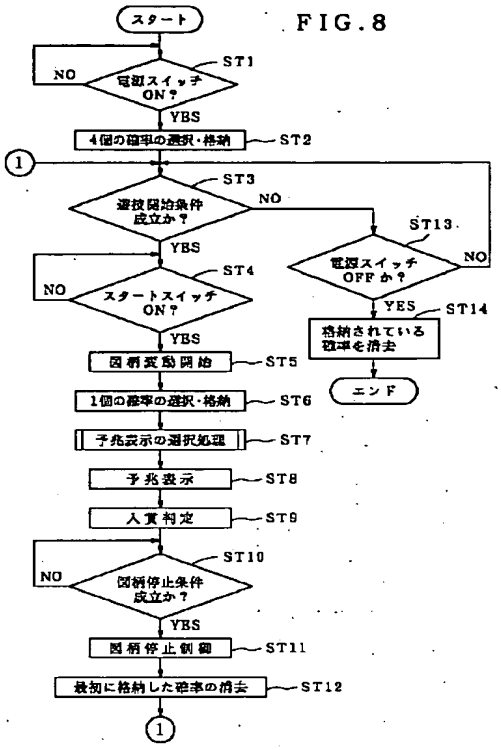
FIG.8



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CLAIMS

[Claim(s)]

[Claim 1] The pattern display means which indicates two or more patterns by change. The control unit which a game person operates in order to make this pattern change start. Control means which judge whether the aforementioned pattern change is stopped in the specific state, and carry out halt control. It has an information means by which it is the game machine equipped with the above, and the information relevant to the probability that the aforementioned pattern change will

stop in the aforementioned specific state can be reported. the aforementioned control means Even before performing the aforementioned judgment from the operation start of a game machine, choose the probability stopped in the aforementioned specific state from two or more probability set up beforehand, and it is stored one by one. [two or more] While performing the aforementioned judgment based on the probability stored first, search the probability stored under predetermined conditions and the highest probability is chosen. it is this **** — based on probability, the information relevant to the probability stopped in the aforementioned specific state is determined, and it is characterized by making the this determined information report to the aforementioned information means

[Claim 2] It is the game machine characterized by for the aforementioned information means being able to report two or more information that it corresponds to two or more aforementioned probability respectively, in a game machine according to claim 1, and the aforementioned control means making the information corresponding to the probability that ****** is also high report to the aforementioned information means.

[Claim 3] It is the game machine which is reevaluating the probability aforementioned storing of the aforementioned predetermined conditions being carried out in the game machine according to claim 1 or 2, on the criteria according to storing sequence.

[Claim 4] Either, 3 is [a claim 1 or] the game machine characterized by eliminating the probability stored in the aforementioned beginning, when pattern change of the aforementioned pattern display means stops the aforementioned control means in the game machine of a publication.

[Claim 5] 4 is [a claim 1 or] the game machine characterized by considering as storing of the aforementioned probability by having the index storing section which can store the combination of the index with which the aforementioned control means mean this or no in the game machine of a publication, and storing the combination of the aforementioned index in this index storing section either.

[Claim 6] the index of the index position which the aforementioned control means chose one index position of the combination of the aforementioned index, and was this chosen in the game machine according to claim 5 — justice — the game machine characterized by making the aforementioned pattern change into the criterion of whether to make it stop in the aforementioned specific state by any are meant

[Claim 7] It is the game machine characterized by for a claim 1 or 6 to be a sound generating means to by_which the visual display means or the sound which reports the aforementioned information by visual display reports the aforementioned information means, in the game machine of a publication either, and for the aforementioned control means to make the information relevant to the aforementioned probability report to the aforementioned information means based on the probability chosen from two or more aforementioned probability.

[Claim 8] In a claim 1 or the game machine of any of 6, or a publication the aforementioned information means A sound generating means by which the visual display means or sound reported by visual display reports the aforementioned information, The information control section which controls information operation of the aforementioned visual display means or a sound generating means is included. the aforementioned control means The game machine characterized by making the information relevant to the aforementioned probability report to the aforementioned visual display means or a sound generating means by transmitting the probability chosen from two or more aforementioned probability to the aforementioned information control section.
[Claim 9] 8 is [a claim 1 or] the game machine characterized by storing the probability that the aforementioned control means will stop in at least one aforementioned specific state in the game machine of a publication at the time of the operation start of a game machine, and storing the probability stopped in the one aforementioned specific state even before the aforementioned judgment from operation of the aforementioned control unit either.
[Claim 10] 8 is [a claim 1 or] the game machine which sets to the game machine of a publication and is characterized by the aforementioned control means storing the probability stopped in at least two aforementioned specific state even before the aforementioned judgment from operation of the aforementioned control unit of the beginning after the operation start of a game machine either.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] this invention relates to game machines, such as a slot machine which gives profits special to a game person, when two or more patterns are indicated by change and the pattern change stops in the

specific state.
[0002]
[Description of the Prior Art] In game machines, such as a slot machine, if pattern change of pattern display will be in a specific state and stops, the game person is provided with what gave profits, such as "great success" and per ["]."
[0003] since the probability which the pattern by which it is indicated by change serves as per [however, / predetermined "]" pattern combination, and is stopped is not usually set up highly -- a game person -- the inside of a game -- too much -- per ["] -- " -- it is disappointed at not appearing and a game may be stopped
[0004] It has set in such a situation and the game machine which makes pattern change produce change so that the expectation which pattern change will serve as "scaling" pattern combination, and will stop for the purpose which makes the interest over a game person's game maintain if predetermined conditions are ready may be made to hold is developed. Change of such pattern change is called "reach action."
[0005] If the change (adjustable display) speed of the pattern displayed is usually changed as an example of reach action compared with the time, or change time of a pattern may be changed and specific reach action occurs, it may be set up so that great success may appear 100%.
[0006]
[Problem(s) to be Solved by the Invention] however, the comparatively simple method of the grade that the above-mentioned reach action by the display means of the conventional game machine changes the fluctuation velocity and time of a pattern -- it is -- a game person -- per ["] -- " -- even if it makes expectation hold and such reach action appears -- per ["] -- since pattern change does not necessarily stop in" pattern, expectation of a game person may be betrayed and interest may be spoiled on the contrary
[0007] Moreover, although the game machine which produces change which makes pattern (character) in which the pattern changed besides change of the above-mentioned pattern change as reach action is another appear is also known, it is only that to which such reach action also added the simple pattern display, and the information whether "a hit" appears with the possibility of which grade is not displayed.
[0008] The pattern currently changed adds the purpose of this invention to providing a game person with the information on possibility of stopping in the specific state which profits generate to a game person, beforehand. It is offering the game machine in which making the expectation which pattern change which can report the information about generating of the above-mentioned specific state continuously over several pattern change, and is performed behind the pattern under change to a game person or after this is in the above-mentioned specific state, and stops able to hold can be continued.
[0009]

[Means for Solving the Problem] A pattern display means by which the 1st mode of this invention indicates two or more patterns by change, In the game machine possessing the control unit which a game person operates in order to make this pattern change start, and the control means which judge whether the aforementioned pattern change is stopped in the specific state, and carry out halt control It has an information means by which the information relevant to the probability that the aforementioned pattern change will stop in the aforementioned specific state can be reported. the aforementioned control means Even before performing the aforementioned judgment from the operation start of a game machine, choose the probability stopped in the aforementioned specific state from two or more probability set up beforehand, and it is stored one by one. [two or more] While performing the aforementioned judgment based on the probability stored first, search the probability stored under predetermined conditions and the highest probability is chosen. it is this **** -- based on probability, the information relevant to the probability stopped in the aforementioned specific state is determined, and it is characterized by making the this determined information report to the aforementioned information means

[0010] In the 2nd mode of this invention, it is characterized by for the aforementioned information means being able to report two or more information that it corresponds to two or more aforementioned probability respectively, and the aforementioned control means making the information corresponding to the probability that ****** is also high report to the aforementioned information means.

[0011] In the 3rd mode of this invention, the aforementioned predetermined conditions are reevaluating the probability by which storing is carried out [aforementioned] on the criteria according to storing sequence.

[0012] In the 4th mode of this invention, the aforementioned control means will be characterized by eliminating the probability stored in the aforementioned beginning, if pattern change of the aforementioned pattern display means stops.

[0013] In the 5th mode of this invention, the aforementioned control means have the index storing section which can store the combination of the index meaning this or no, and are characterized by considering as storing of the aforementioned probability by storing the combination of the aforementioned index in this index storing section.

[0014] the index of the index position which the aforementioned control means chose one index position of the combination of the aforementioned index, and was this chosen in the 6th mode of this invention — justice — it is characterized by making the aforementioned pattern change into the criterion of whether to make it stop in the aforementioned specific state by any are meant

[0015] In the 7th mode of this invention, the aforementioned information means is a sound generating means to report to the visual display means or sound which reports the aforementioned information by visual display, and the aforementioned control means are characterized by making the information relevant to the aforementioned probability report to the aforementioned information means based on

the probability chosen from two or more aforementioned probability.

[0016] In the 8th mode of this invention the aforementioned information means A sound generating means by which the visual display means or sound reported by visual display reports the aforementioned information, The information control section which controls information operation of the aforementioned visual display means or a sound generating means is included. the aforementioned control means By transmitting the probability chosen from two or more aforementioned probability to the aforementioned information control section, it is characterized by making the information relevant to the aforementioned probability report to the aforementioned visual display means or a sound generating means.

[0017] In the 9th mode of this invention, the aforementioned control means are characterized by storing the probability stopped in at least one aforementioned specific state at the time of the operation start of a game machine, and storing the probability stopped in the one aforementioned specific state even before the aforementioned judgment from operation of the aforementioned control unit.

[0018] It sets in the 10th mode of this invention, and the aforementioned control means are characterized by storing the probability stopped in at least two aforementioned specific state even before the aforementioned judgment from operation of the aforementioned control unit of the beginning after the operation start of a game machine.

[0019]

[Function and Effect] Control means judge whether pattern change of the pattern display means which originated in operation of a control unit and was started is stopped in the specific state, and carry out halt control. Even before control means perform the aforementioned judgment from the operation start of a game machine, a change pattern chooses the probability stopped in the specific state from two or more probability set up beforehand, and stores them one by one. [two or more]

[0020] Although control means perform the aforementioned judgment for every pattern change, since two or more aforementioned probability is stored by before control means perform this judgment as above-mentioned, in case the aforementioned judgment is performed, the two or more aforementioned probability is always stored.

[0021] Control means are searched under predetermined conditions out of the probability stored, and choose the highest probability. The reference range spreads, so that there is many probability stored, and possibility that the high probability inevitably stopped in the specific state will be chosen increases.

[0022] Control means make the information about the probability that a change pattern will stop in the specific state for an information means report to an information means based on the selected probability.

[0023] as mentioned above, the reason by which the same reference is performed in a pattern change at each time while the possibility of informational information which shows that the probability a change pattern will stop in a specific state as

information about probability is high will increase, if the number of the probability to store makes [many] even before performing the aforementioned judgment from the operation start of a game machine — the above — it is high also in possibility that the information of the information which shows high probability will be performed continuously

[0024] By such information being performed, a game person can continue holding expectation whether pattern change of the following time stops in the specific state even if pattern change does not stop in the specific state.

[0025] If an information means enables it to report the information corresponding to each of the probability by which the multi-statement was carried out, possibility that each probability means can be reported. Thereby, a game person can expect the grade of possibility of stopping in the state of specification.

[0026] If the probability stored is reevaluated and searched with the criteria according to storing sequence when control means search the probability stored, even if the highest as a value of the stored probability, depending on storing sequence, it will not become the not necessarily highest probability. By setting up the reference conditions which considered weighting by such storing sequence, the information which pattern change stops in the specific state can be changed, whenever pattern change is performed.

[0027] When the change display of a pattern is turned off, after the probability which was the probability stored in the 2nd in the probability stored eliminating, it becomes the probability stored first before elimination by eliminating the probability which control means stored first. Thereby, the probability stored first is always updated.

[0028] As the storing method of the above-mentioned probability, it has the index storing section of the predetermined number which can store the combination of the index meaning this or no, and if control means consider as storing of the aforementioned probability by storing the combination of the aforementioned index in this index storing section, since they can include the rank of index combination in probability, they can produce many selection branches from the number of the set-up probability. Furthermore, in the combination of an index, the number of the probability set up can be fluctuated by fluctuating the number of the indexes which constitute combination.

[0029] the index of the index position which control means chose one index position of the combination of the aforementioned index, and was this chosen when it had the above-mentioned index storing section — justice — by any are meant If pattern change is made into the criterion of whether to make it stop in the specific state, while being able to perform the judgment of whether to stop pattern change in the specific state by the probability stored automatically In case the combination of the aforementioned index is stored, the above-mentioned judgment processing can be made simple by choosing an index position.

[0030] A visual display means to report by visual display as an information means, sound generating meanses to report to sound, or such combination are used.

[0031] The information means may contain the information control section, and control means are transmitting the aforementioned reference result to an information control section, and make the information relevant to probability reported to a visual display means or a sound generating means in this case.
[0032] Control means as a way a change pattern chooses the probability stopped in the specific state from two or more probability set up beforehand, and stores it one by one [two or more] How to store at least one aforementioned probability at the time of the operation start of a game machine, and to store the one aforementioned probability even before the aforementioned judgment from operation of the aforementioned control unit, The method of storing at least two aforementioned probability even before the aforementioned judgment from operation of the aforementioned control unit of the beginning after the operation start of a game machine etc. is mentioned. Thus, the omen display of the probability that the pattern under change is higher than the probability stopped in the specific state can be performed by storing two or more probability, before performing the aforementioned judgment about the pattern under change.
[0033]
[Embodiments of the Invention] Drawing 1 is the perspective diagram showing the appearance of the slot machine of one example of this invention. Although this slot machine 1 is a game machine which plays a game, using coin, a medal, or a token as a game medium, below, it is explained as what uses coin.
[0034] The display window 3 of the oblong rectangle formed in the transverse plane of the cabinet 2 which forms the whole slot machine 1 as an almost perpendicular flat surface is formed, at a level with a display window 3, two winning-a-prize lines 15 are formed aslant, and three digital display (it is 3, 2, 1, 2, and 3 to the order from a top) which connects these winning-a-prize lines is prepared in right and left of a display window 3. When these winning-a-prize lines operate the below-mentioned 1-BET switch 9, the 2-BET switch 10, and the maximum BET switch 11, 1, 3, and 5 are validated, respectively.
[0035] Three rotation reels 4L, 4C, and 4R are arranged lining up side-by-side, and the pattern sheet describing the pattern displayed on a display window 3 by the peripheral face of each rotation reel is stuck on the interior of a cabinet 2. The pattern display of this invention is constituted by these rotation reels.
[0036] The liquid crystal display 6 which has the liquid crystal display screen which the plinth section 5 almost level in the lower part of the display window 3 of a cabinet 2 was formed, and was formed in the center as a upward inclined plane is formed. This liquid crystal display 6 functions as an information means of this invention. In addition, as an information means, it may change to the above-mentioned liquid crystal display, and the drop which has the display screen which consists of a plasma display, CRT, electroluminescence, etc. may be used.
[0037] The bucket type coin slot 7 which can insert a lot of coin at once on the right-hand side of a liquid crystal display 6 is formed. The circuit changing switch 8

for paying out the coin thrown into the coin slot 7 to the credit section is formed in the left-hand side of a coin slot 7.

[0038] On the left-hand side of a liquid crystal display 6, by one push button operation The maximum BET switch 11 for betting the coin of the maximum number of sheets which can bet 9 or 2 1-BET switches for risking only one of the coin by which the credit is carried out on a game on the game of 10 or 1 2-BET switch for risking on a game is formed. By operating these BET switches, the predetermined validation line 15 is validated as above-mentioned.

[0039] The left of the front section of the plinth section 5 is made to rotate the above-mentioned reels 4L, 4C, and 4R by operation of a game person, and the start lever 12 for starting movement of the pattern of a display window 3 is attached in it free [rotation] in the predetermined angle range.

[0040] In the almost level center of the front section of the plinth section 5, in order to stop the pattern of three trains by which a display window 3 is indicated by move, respectively, three stop buttons 14L, 14C, and 14R which a game person operates are formed in the position of the lower part of the aforementioned liquid crystal display 6.

[0041] The C/P switch 16 which changes the credit/expenditure of the coin which the game person gained in the game by push button operation on the left-hand side of the start lever 12 is formed. Coin pays out of the coin expenditure mouth 17 of the transverse-plane lower part by the change of this C/P switch 16, and the paid-out coin is accumulated in the coin receptacle section 18.

[0042] The liquid crystal display 6 is set up possible [a display of the information prepared specially because of information], while a change indication of the pattern on the reel which constitutes the above-mentioned pattern display is given. In this example, since information is performed by the liquid crystal display 6 which is a visual display means, it is set up possible [a display of the pattern for information (omen pattern), for example, three kinds of omen patterns shown in drawing 2 ,].

[0043] drawing 2 — it can set — an omen — a pattern — J — gold — Taro — both hands — both — a leg — large — an aperture — sumo wrestling — partition — having begun — a pause — carrying out — **** — a display — a content — it is — this — an omen — a pattern — J — a liquid crystal display — a screen — appearing — if — one — /— three — probability — a reel — a top — a pattern — change — specification — a state — an example —

[0044] an omen — a pattern — Q — gold — Taro — one leg — a few — mentioning — sumo wrestling — partition — a degree — a stage — a pause — carrying out — **** — a display — a content — it is — this — an omen — a pattern — Q — a liquid crystal display — a screen — appearing — if — two — /— three — probability — a reel — a top — a pattern — change — specification — a state — an example — "— per — " — a pattern —

[0045] an omen — a pattern — K — gold — Taro — one leg — large — mentioning — sumo wrestling — partition — most — being suitable — being good — a pause —

- carrying out — **** — a display — a content — it is — this — an omen — a pattern — K — a liquid crystal display — a screen — appearing — if — three — /— - three (100%) — probability — a reel — a top — a pattern — change — specification — a state — an example — "— per

[0046] the above — three — a kind — a pattern — displaying — not having — the time — specification — a state — an example — "— per — " — a pattern — combination — stopping — probability — zero — /— three (0%) — therefore — a pattern — change — the above — specification — a state — a pattern — combination — **** — not stopping — things — information — becoming

[0047] As mentioned above, the information on four kinds of probability can be reported by not displaying a pattern as three kinds of pattern displays.

[0048] Next, game control of the above slot machines is explained. This kind of slot machine is equipped with a microcomputer as control means, and controls a game at large by this.

[0049] Drawing 3 shows the circuitry containing the control means which control game processing operation in a slot machine 1, and the peripheral device (actuator) electrically connected to this.

[0050] In this slot machine 1, control means make a microcomputer 20 a main component, add the circuit for a random number sampling to this, and are constituted. CPU21 which performs control action according to the program to which the microcomputer 20 was set beforehand, the clock pulse generating circuit 24 and counting-down circuit 25 which generate a criteria clock pulse in CPU21 including ROM22 and RAM23 which are a storage means, the random number generator 26 which generates the random number sampled, and the random number sampling circuit 27 are connected. In addition, as a means for a random number sampling, you may constitute so that a random number sampling may be performed within a microcomputer 20 (i.e., on the program of CPU21 of operation). In this case, it is also possible to be able to omit a random number generator 26 and the random number sampling circuit 27, or to leave as an object for backup of a random number sampling action.

[0051] Information and data required in order to perform processing which displays two or more omen **** of the above-mentioned besides game control of a slot machine on a liquid crystal display 6 are stored in ROM22 of a microcomputer 20.

[0052] In the circuit of drawing 3 , as main actuators with which operation is controlled by the control signal from a microcomputer 20 The stepping motors 19L, 19C, and 19R which carry out the rotation drive of the reels 4L, 4C, and 4R which constitute pattern display, respectively, The hopper 30 which contains the coin for expenditure (the mechanical component for expenditure is included), There are the above-mentioned liquid crystal display machine 6 and an expenditure mechanical component (illustration ellipsis) from a coin slot 7 to the credit section. It connects with the outgoing end of CPU21 through the motorised circuit 31, the hopper drive circuit 32, the liquid crystal drive circuit 33, and the expenditure drive circuit

(illustration ellipsis) from a coin slot to the credit section, respectively. These drive circuits control operation of each actuator in response to control signals, such as drive instructions outputted from CPU21.

[0053] moreover, as main input signal generating meanses to generate an input signal required since a microcomputer 20 generates a control signal Coin sensor 7S which detect the coin as electric power switch 1S, a circuit changing switch 8, and a game medium by which the credit is paid out and carried out to the credit section, Start switch 12S which detect operation of the start lever 12, Each reels 4L and 4C which constitute the reel stop signal circuit 28 which generates a stop signal according to operation of the 1-BET switch 9, the 2-BET switch 10, the maximum BET switch 11, the C/P switch 16, and each stop buttons 14L, 14C, and 14R, and pattern display, four -- R -- rotation -- a position -- detecting -- a reel -- rotation -- a detector -- four -- L -- ' -- four -- C -- ' -- four -- R -- ' -- from -- a pulse signal -- receiving -- each -- a reel -- a position -- detecting -- a sake -- a signal -- CPU -- 21 -- supplying -- a reel -- a position -- a detector -- 34 -- and When the number-of-sheets data with which the enumerated data of the coin detecting element 35 which detects the coin paid out of the hopper 30 was specified are reached, the completion signal circuit 36 of expenditure which supplies the signal for detecting the completion of coin expenditure to CPU21 is connected to the input edge of CPU21.

[0054] If the power supply of a slot machine 1 is turned on, the coin which is start conditions is thrown in and the start lever 12 is operated, rotation of Reels 4L, 4C, and 4R will begin, counting of the number of the driving pulses supplied to each of stepping motors 19L, 19C, and 19R will be carried out, and the enumerated data will be written in the predetermined area of RAM23. a reel -- a rotation position sensor -- four -- L -- ' -- four -- C -- ' -- four -- R -- ' -- from -- each -- one revolution -- every -- a reset pulse -- obtaining -- having -- these -- a pulse -- a reel -- a position -- a detector -- 34 -- minding -- CPU -- 21 -- inputting -- having . CPU21 clears to "0" the driving pulse enumerated data stored in RAM23 by the reset pulse obtained in this way. Thereby, in RAM23, the enumerated data corresponding to the rotation position of one revolution within the limits is stored about each reels 4L, 4C, and 4R.

[0055] Since the rotation position and pattern of the above reels 4L, 4C, and 4R are matched, the pattern table is stored in ROM22. Furthermore, the winning-a-prize pattern combination table is stored in ROM22. On this winning-a-prize pattern combination table, the combination of the pattern which is winning a prize, the coin dividend number of sheets of winning a prize, and the winning-a-prize judging code showing the winning a prize are matched. A winning-a-prize pattern combination table is referred to, while performing halt control of the rotating reels 4L, 4C, and 4R, and when performing the winning-a-prize check after [all] a reel halt.

[0056] Moreover, in the advance process of each game, although CPU21 makes various determination, for example, the determination of the combination of a halt

pattern, the decision of an omen pattern, etc., CPU21 samples at random the random number which the random number generator 26 generated, and makes a decision required of the value of the sampled random number.

[0057] CPU — 21 — a display window — three — displaying — having — a pattern — change — specification — "— per — " — a pattern — combination — stopping — probability — an omen — a display — a liquid crystal display — six — carrying out — making — a sake — being required — plurality — probability — a setup — and — selection — possible — carrying out — a means — ** — carrying out — It has the probability storing section which consist of the storable index storing sections in the combination (three indexes should put together in this example) of the index (it sets to this example and is "0") meaning the index (it sets to this example and is "1") meaning "this", and "no."

[0058] Drawing 4 is drawing showing the concept of the index storing section 60. The index storing section 60 can store five indexes [a total of 15] three pieces and horizontally perpendicularly. Here, when an index storing position is expressed as "aij", i shows a column (train number) for the numeric value of 1 or 5, and j expresses a horizontal train (line number) with the numeric value of 1 or 3.

[0059] In this example, it shall be storing the combination of three indexes in a11, a12, and a13 of the index storing position of a column, for example, the 1st train, and one probability should be stored. The index is set up possible [storing of "1" or "0"]. As a combination of "1", and "0", there are eight sorts, "0-0-0", "1-0-0", [0-1-0], "0-0-1", "0-1-1", "1-1-0", "1-0-1", and "1-1-1". [storable in the index storing position of three pieces] One is chosen and stored from the inside. By this, four kinds of probability, 0/3 [i.e.,], 1/3, 2/3, or 3/3 will be chosen and stored. Thus, eight selection branches are produced to four kinds of probability by setting up possible [specification of an index storing position].

[0060] CPU21 performs this selection by random number sampling in a suitable selection means and this example.

[0061] When the electric power switch of a slot machine 1 is set to being turned on and operation is started, CPU21 within simultaneous or a predetermined time At least one piece, For example, extract four random numbers and one is chosen from the combination of the eight aforementioned sorts of indexes for every random number, respectively. First, the 2nd in the index storing positions a11, a12, and a13 of vertical 1 ****** in the index storing positions a21, a22, and a23 of eye vertical 2 train "1" of the combination which was chosen as the 3rd in the index storing positions a31, a32, and a33 of eye vertical 3 train, and was chosen as the 4th in the index storing positions a41, a42, and a43 of eye vertical 4 train, or "0" is stored.

[0062] If "0" is stored in all the three index storing positions of a column, the probability stopped in "hit" pattern combination means 0% by 0/3.

[0063] If "0" is stored in one index storing position in "1" and other two index storing positions, the probability 1/3 stopped in "hit" pattern combination is meant.

[0064] If "0" is stored in two index storing positions in "1" and one index storing

position, the probability 2/3 stopped in "hit" pattern combination is meant.
[0065] If "1" is stored in all the three index storing positions, the probability 3/3 stopped in "hit" pattern combination means 100%.
[0066] As mentioned above, although the index storing section 60 has the index storing position aij of 15 pieces, "1" or "0" is contained by the starting storing position of 12 pieces at the time of the operation start of a slot machine.
[0067] If the start lever 12 is operated, one more random number is extracted, one is chosen from the combination of the eight aforementioned sorts of indexes, and "1" or "0" is stored in the index storing positions a51, a52, and a53 of eye vertical 5 train.
[0068] Drawing 5 shows the state where the index was stored in all the index storing positions aij with the 15 aforementioned index storing sections 60, and five probability which is the maximum was stored one by one.
[0069] In drawing 5 , since "0-0-0" of the combination of the above-mentioned index was chosen by the random numbers (a random number A is called) sampled first and it stored in the index storing positions a11, a12, and a13 of eye one train, the stored probability is 0/3, i.e., 0%.
[0070] Since "1-0-1" was stored in the index storing positions a21, a22, and a23 of eye two trains to the random number (a random number B is called) sampled to the 2nd, the stored probability is 2/3.
[0071] Since "0-1-1" was stored in the index storing positions a31, a32, and a33 of eye three trains to the random number (a random number C is called) sampled to the 3rd, the stored probability is 2/3.
[0072] Since "0-0-1" was stored in the index storing positions a41, a42, and a43 of eye four trains to the random number (a random number D is called) sampled to the 4th, the stored probability is 1/3.
[0073] Since "1-1-1" was stored in the index storing positions a51, a52, and a53 of eye five trains to the random number (a random number E is called) sampled when the start lever 12 was operated, the stored probability is 100%.
[0074] In ROM22C, the omen pattern and the probability-matching table to which four kinds of omen patterns (it includes no displaying) shown in above-mentioned drawing 2 and the aforementioned probability are made to correspond are stored.
[0075] The probability stored is reevaluated on the criteria according to storing sequence, and a liquid crystal display 6 is made to display the omen pattern corresponding to the highest probability in the probability after reevaluation during change of the pattern displayed on a display window 3 in this example.
[0076] In ROM22, the probability reevaluation table for reevaluating the aforementioned probability by storing sequence is stored.
[0077] Drawing 6 is an example of a probability reevaluation table. As shown in drawing 6 , the probability stored first corresponds with an omen pattern by probability as it is. Although 0% of the probability stored in the 2nd is still in state of 0%, one third, it is the probability by which was carried out two thirds one third and 1

rank lowering ****** was carried out 100% two thirds, respectively, and corresponds to 0% with the omen pattern of drawing 2 . the probability stored in the 3rd -- further — 1 rank lowering ****** will be carried out and it will correspond with 0% of no displaying except corresponding with the omen pattern J as which 100% expresses one third of probability Even if 100% of probability is stored for storing sequence, when the 4th and the 5th are reevaluated, they become 0% and will correspond with no displaying.

[0078] Drawing 7 is the correspondence table showing the stored probability which is shown in drawing 5 ; and the probability after reevaluating such probability based on the probability reevaluation table shown in drawing 6 .

[0079] Drawing 8 is a flow chart which shows the information procedure by the above-mentioned microcomputer.

[0080] CPU — 21 — an electric power switch — one — S — turning on — having -- if — (Step 1) four -- a piece — a random number -- one by one — sampling -- each -- a random number -- a value — being based — respectively — a pattern -- display — three — a pattern — change — specification — "— per — " — a state -- stopping — probability — choosing — storing (Step 2) . It is storing the index which constitutes the combination of four pieces which chose four pieces based on the value of the random number which sampled either of eight kinds of combination of "1" and "0" in the index storing position of three columns of the index storing section 60, and was chosen as the index storing section 60 one by one, and means storing the probability which the combination of an index means in this example as above-mentioned.

[0081] It judges whether the game start affair is materialized (Step 3). If a required number of coin was thrown in and the game start condition is satisfied, it will judge with "YES" and will judge whether next start switch 12S were set to being turned on (Step 4). To the set-up timing, if the start lever 12 is operated and start switch 12S generate ON signal, it will judge with "YES", and the reels 4L, 4C, and 4R which are pattern display are rotated, pattern change is started (Step 5), and based on the value of the sampled random number, the one aforementioned probability is chosen and is stored [one random number is sampled, and] (Step 6). Storing of this probability is also performed by storing the index which constitutes the combination which chose the combination of "1" or "0" like the above, and was chosen as the index storing positions a51, a52, and a53 of eye vertical 5 train of the index storing section 60.

[0082] Next, selection processing of an omen pattern is performed (Step 7). The procedure shown in the flow chart of drawing 9 performs selection processing of an omen pattern.

[0083] First, all the probability that the combination of the index stored in the index storing section means is reevaluated on the criteria according to storing sequence, respectively as above-mentioned (Step 101). It judges whether 3/3 of probability is in the value of all the probability after reevaluating (Step 102). When a judgment

result is "YES", the omen pattern K which displays 3/3 of probability is chosen (Step 103). When a judgment result is "NO", after reevaluating next, it judges whether all 2/3 are in the value of probability (Step 104). When a judgment result is "YES", the omen pattern Q which displays two thirds of probability is chosen (Step 105). When a judgment result is "NO", after reevaluating next, it judges whether all 1/3 are in the value of probability (Step 106). When a judgment result is "YES", the omen pattern J which displays one third of probability is chosen (Step 107). When a judgment result is "NO", it chooses no displaying (Step 108).

[0084] For example, since the probability that the probability that the probability that the probability that the probability stored first was stored in 0 / 3 or the 2nd was stored in 2 / 3 or the 3rd was stored in 2 / 3 or the 4th was stored in 1 / 3 or the 5th is 3/3 supposing the probability shown by aforementioned drawing 5 was stored, as shown in drawing 7 The probability which was set to one third after only the probability 2/3 stored in the 2nd by reevaluation reevaluating, and was stored first is 0/3 from the first. Since the probability stored in the 3rd, the 4th, and the 5th becomes 0/3 after reevaluation, respectively, the probability 1/3 after reevaluation of the probability stored in the 2nd is the highest probability. Therefore, the omen pattern J meaning one third of probability is chosen.

[0085] Next, the omen pattern chosen by selection processing (Step 7) of an omen pattern is displayed on a liquid crystal display 6 (Step 8). for example, the pattern under change — per ["] — " — although the probability (probability stored first) stopped in pattern combination is 0/3 (0%) — a game person — an omen pattern — seeing — the pattern under change — per ["] — " — it can be predicted that the probability stopped in pattern combination is 1/3

[0086] Next, CPU21 performs a winning-a-prize judging (Step 9). A winning-a-prize judging chooses either of the index storing positions [of the index storing section 60 stored first] of eye one train of three pieces by random number extraction, and if "1" is stored in the selected index storing position and "a hit" and "0" are stored, it will judge with a "blank." In addition, in case selection and storing of the probability of Step 2 and Step 6 are performed, the value which specifies either of the index storing positions of the three above-mentioned pieces beforehand can be combined. In this case, by the winning-a-prize judging of Step 9, the index of the index storing position which the already stored aforementioned value shows should just perform the aforementioned judgment by "1" and "0."

[0087] Next, it judges whether the condition precedent of a change pattern is satisfied (Step 10). If the game person operated the stop buttons 14L, 14C, and 14R and the condition precedent is satisfied, it will judge with "YES" and halt control of a pattern will be performed (Step 11). Since the probability stored first is 0% in 0/3 when the example shown in aforementioned drawing 5 explains, a change pattern carries out halt control so that it may stop in "blank" pattern combination.

[0088] The stop button is not prepared depending on the game machine, and there are some from which stop button grabbing does not serve as a condition precedent.

In the case of such a game machine, the passage of time set up as conditions for halt control which can be started becomes formation of a condition precedent.

[0089] CPU21 eliminates the combination of the index stored first from the index storing positions a11, a12, and a13 of eye one train (Step 12).

[0090] If the example shown in drawing 5 explains, three indexes of eye combination [the combination of the index stored in the random number A by originating], i.e., vertical 1 train, will be eliminated. The index which was stored in the index storing section 60 and remains by this will move to the index storing position which the index eliminated one by one occupied, and the combination of three indexes stored in the random number B by originating will be located in the index storing positions a11, a12, and a13 of three pieces of eye one train.

[0091] Drawing 10 shows the index storing section in the state where the probability originated and stored in the random number A was eliminated. That is, the probability which the combination of the index stored in the random number B by originating means turns into probability stored first, and the probability which the combination of the index stored in random numbers C, D, and E by originating means has become the 2nd, the 3rd, and the 4th. In addition, the index storing positions [of the index storing section 60] a51, a52, and a53 of eye vertical 5 train of three pieces shown in drawing 4 are sky condition.

[0092] In this state, if the start lever 12 is operated and start switch 12S are turned on [them] when it is judged whether the game start condition of Step 3 is satisfied again and it is "YES" (Step 4), selection and storing of one probability will be performed with the start (Step 5) of pattern change (Step 6). A random number sampling is performed, one of the combination of the aforementioned index is chosen with the sampled random number (a random number F is called), and "1-0-1" (probability 2/3) is stored in the index storing positions a51, a52, and a53 of the above-mentioned sky condition.

[0093] In case the probability that Step 101 in omen pattern selection processing of Step 7 was stored is reevaluated according to storing sequence, as shown in drawing 11 , since it is with the probability stored first, the probability stored in the random number B by originating remains as it is, and is 2/3. Since the probability 2/3 stored in the 2nd random number C by originating is set to one third after reevaluation and the probability stored in the 3rd, the 4th, and the 5th random numbers D, E, and F by originating becomes 0% after reevaluation, respectively, the highest probability after reevaluation is the probability 2/3 stored first. Therefore, the omen pattern Q corresponding to this probability 2/3 (drawing 2) is chosen.

[0094] As mentioned above, pattern change is repeated and the omen pattern corresponding to the probability after reevaluation is chosen each time.

[0095] Since the probability stored in the random number E by originating is 3/3, when this probability comes to the 3rd, the probability after reevaluation is set to one third, when this probability comes to the 2nd, the probability after reevaluation is set to two thirds, and when this probability comes first, it becomes 3/3. Therefore,

the omen pattern J is displayed by the pattern change before [two] pattern change corresponding to a random number E is performed, and the omen pattern Q is displayed by pattern change 1 time ago. still more, when change of the pattern corresponding to a random number E is performed, the omen pattern K displays — having — and per ["] —" judging carries out — having — per ["] — " — a change pattern will stop in pattern combination change of such a display — a game person — per ["] — " — it is strongly made conscious of approaching and it is excited

[0096] the above — an example — setting — a pattern — display — a pattern — change — specification — "— per — " — a pattern — combination — stopping — probability — CPU — 21 — having — an index — storing — the section — 60 — having stored — an index — combination — from — computing — choosing an index position — per ["] — although it was made to perform the judgment which stops pattern change in" pattern combination, CPU21 chooses one of the above-mentioned probability set as plurality, and you may direct-store or may make it memorize in this case, the selected probability — CPU — pattern change — per ["] — it is necessary to set up another judgment means for stopping in the combination of" pattern

[0097] Moreover, by reevaluating the stored probability on the criteria according to storing sequence in selection of an omen pattern in the above-mentioned example, and choosing the omen pattern based on the highest probability of the probability after reevaluation changing and displaying on the omen pattern which means high probability by whenever [by which pattern change is resumed] — per ["] — " — although it was made for expectation to increase next, the case where the omen pattern corresponding to the probability highest without carrying out such reevaluation in the stored probability is chosen is explained

[0098] With reference to the example shown in drawing 5 , it explains using the probability computed from the combination of the index stored in the index storing section. Although CPU21 will start pattern change if a start lever is operated and a start switch generates a signal, the sampling of a random number E is also performed. Therefore, when probability stored is searched on the occasion of selection of the omen pattern displayed during pattern change, 3/3 based on a random number E becomes the highest probability, and it will choose the omen pattern K corresponding to 100%.

[0099] If the omen pattern K is displayed while five pattern change is repeated, and a winning-a-prize judging is performed by the random number E, pattern change will surely stop in the combination of "scaling" pattern, until pattern change is performed one by one and there is a winning-a-prize judging based on a random number E, since the winning-a-prize judging which is a change pattern is performed based on the probability stored first. therefore — if the omen pattern K is displayed — pattern change of this time — per ["] — the inside where several pattern change is performed as long as the omen display K is displayed, even if it does not

stop in the combination of" pattern -- surely — per ["] — stopping in the combination of" pattern can expect to a game person

[0100] each above-mentioned example — setting -- per [two or more / "] -- " — although two or more omen patterns of corresponding to the probability stopped in pattern combination and each probability are prepared, an omen pattern can be prepared one kind and an omen pattern can be displayed above predetermined probability, and it can also set up under by predetermined probability so that an omen pattern may not be displayed

[0101] When the game start condition is not satisfied at Step 3 (i.e., when it judges with "NO" by the judgment of Step 3), it judges whether the electric power switch was set to being turned off (Step 13), and in "YES", all the probability stored is eliminated and it becomes it with an end.

[0102] thus -- a pattern -- change -- inside -- **** -- always -- plurality — the above -- probability — storing — having -- **** — since — an omen -- a display -- change -- inside -- a pattern -- specification -- "— per -- " — a pattern — combination — stopping — probability — being high — probability — an omen — a display — it can do — possibility — being high.

[0103] the above-mentioned case — also setting -- a change pattern — per ["] -- " — when it carries out based on the probability which stored first the judgment stopped in pattern combination, and the probability which the index stored in the index rank position of eye vertical 1 train of the index storing section 60 in the example means and pattern change of the pattern display 3 stops, the probability stored first is eliminated

[0104] In the above-mentioned example, when liquid-crystal-display 6 the very thing is equipped with CPU as the display-control section, CPU21 as game control means transmits the probability chosen by reference of the probability stored to CPU of a liquid crystal display 6. According to this, CPU of a liquid crystal display 6 determines an indicator-chart handle, and displays it on a liquid crystal display screen.

[0105] By sampling two or more random numbers, storing two or more probability, when the power supply of a game machine is turned on, sampling one random number in each above-mentioned example, when a start switch turns on, and storing one probability Although it is made to be in the state where two or more probability is always stored When operation of a game machine begins and the first start switch turns on It can be in the state where two or more probability is always stored as two or more random numbers are sampled, two or more probability is stored, one random number is sampled on the occasion of ON of the start switch from the 2nd time and one probability is stored.

[0106] In this case, the procedure of "selection and storing" of four probability of Step 2 in the flow chart which shows the information procedure of drawing 8 is skipped. Although the procedure of judging "whether it being the first start switch ON" with "a pattern change start" of Step 5 is formed by the judgment of "start

switch-on?" of Step 4 in "YES", and "selection and storing" of one probability of Step 6 are performed when this judgment is "NO" In "YES", it changes to the procedure of Step 6, "selection and storing" of five probability are performed, and it progresses to "selection processing of an omen display" of Step 7 of the flow chart of drawing 8 .

[0107] Although the liquid crystal display prepared specially is used as an information means in each above-mentioned example display meanses, such as a lamp special to omen information, -- preparing -- lighting of the lamp -- or Two or more lighting states can set up the lamp already formed for other purpose, for example, the lamp arranged to the display window 3 interior as what ornaments the circumference of the reel of a slot machine 1, possible, and change of the lighting state etc. can perform omen information of the aforementioned probability.

[0108] Furthermore, you may use a sound generating means as an information means. Omen information of the aforementioned probability can be performed by using a sound generating means, for example, a loudspeaker etc., by which the voice of two or more kinds corresponding to each of the aforementioned probability by which the multi-statement was carried out, a musical piece, etc. can be generated, and performing control which generates the voice corresponding to the highest probability searched and selected under predetermined conditions out of the probability that aforementioned storing of the control means (for example, CPU) was carried out, a musical piece, etc.

[0109] or [furthermore, / setting up the probability which can store a different number for every game state in the case of the game machine which a game state can change into two or more game states] -- or Since the kind of probability stored by changing the number of the indexes which prepare two or more index storing sections in the aforementioned example, and constitute the combination of the index stored can be changed Further changeful omen information can be reported by setting up the number of omen information according to each kind.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The perspective diagram of the slot machine of the example of this invention.

[Drawing 2] The omen pattern and probability-matching table used in the example of drawing 1 .

[Drawing 3] The block diagram of the electric system of the slot machine of drawing 1.

[Drawing 4] Drawing showing the concept of the index storing section which functions as the probability storing section of the example of drawing 1 .

[Drawing 5] The table showing the relation between the combination of the index stored in the index storing section and the index storing section of drawing 4 which stored the index, and the stored probability.

[Drawing 6] The probability reevaluation table used in the example of drawing 1 .

[Drawing 7] The correspondence table of the probability shown in drawing 5 , and the probability acquired by reevaluating based on the probability reevaluation table having shown such probability in drawing 6 .

[Drawing 8] The flow chart which shows the information procedure of the example of drawing 1 .

[Drawing 9] The flow chart of selection processing of the omen pattern in the information procedure of drawing 7.

[Drawing 10] The table showing the relation between the combination of the index stored in the index storing section and the index storing section of drawing 4 which stored the index, and the stored probability.

[Drawing 11] The correspondence table of the probability shown in drawing 10 , and the probability acquired by reevaluating based on the probability reevaluation table showing such probability in drawing 6 .

[Description of Notations]

1 [— A cabinet, 3 / — Display window,] — A slot machine, 1S — An electric power switch, 2 4L, 4C, 4R [— A liquid crystal display 7 / — Coin slot,] — A reel, 5 — The plinth section, 6 8 [— 2-BET switch,] — A circuit changing switch, 9 — A 1-BET switch, 10 11 [— Start switch,] — A maximum BET switch, 12 — A start lever, 12S 14L, 14C, 14R [— C/P switch,] — A stop button, 15 — A winning-a-prize line, 16 17 [— Stepping motor,] — A coin expenditure mouth, 18 — The coin receptacle section, 19L, 19C, 19R 20 [— ROM, 23 / — RAM,] — A microcomputer, 21 — CPU, 22 24 [— Random number generator,] — A clock pulse generating circuit, 25 — A counting-down circuit, 26 27 [— A hopper, 31 / — A motorised circuit, 32 / — A hopper drive circuit, 33 / — A liquid crystal drive circuit, 34 / — A reel position detector, 35 / — A coin detecting element, 36 / — The completion signal circuit of expenditure.] — A random number sampling circuit, 28 — A reel stop signal circuit, 30

[Translation done.]

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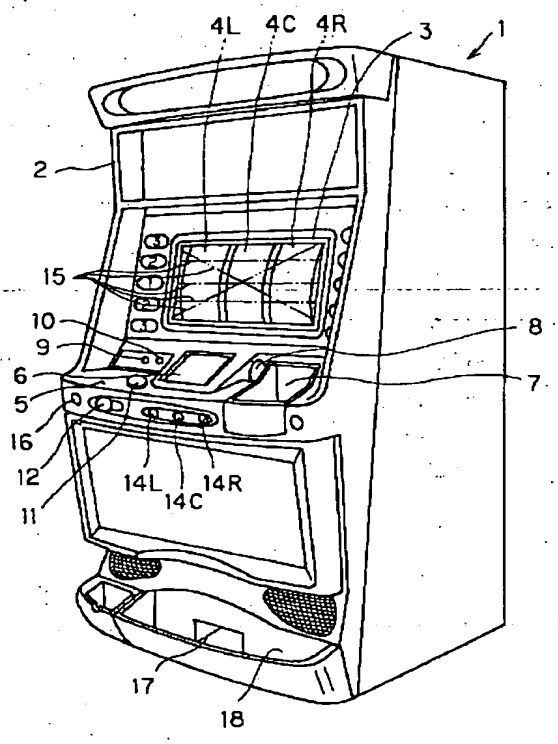
DRAWINGS

[Drawing 1]

FIG. 1



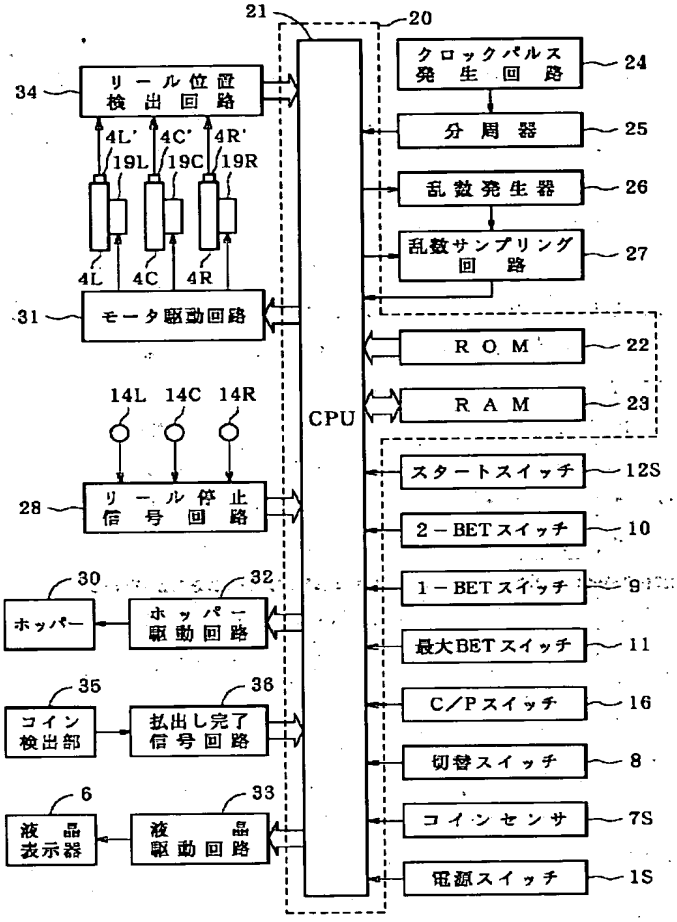
[Drawing 2]

FIG.2

予兆図柄の種類	表示内容	確率
無表示	（表示なし）	0/3 (0%)
予兆図柄J		1/3
予兆図柄Q		2/3
予兆図柄K		3/3 (100%)

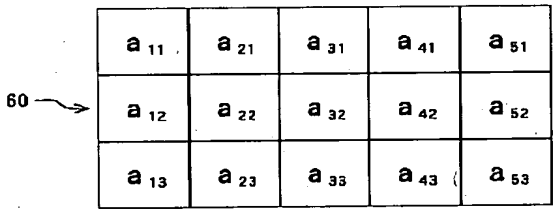
[Drawing 3]

FIG.3



[Drawing 4]

FIG.4



[Drawing 5]

FIG.5

	A	B	C	D	E
60 →	0	1	0	0	1
	0	0	1	0	1
	0	1	1	1	1
格納された確率	0/3	2/3	2/3	1/3	3/3

[Drawing 6]

FIG.6

格納された確率	格納した順序に応じた基準で再評価した後の確率				
	最初	2番目	3番目	4番目	5番目
0/3 (0%)	0/3	0/3	0/3	0/3	0/3
1/3	1/3	0/3	0/3	0/3	0/3
2/3	2/3	1/3	0/3	0/3	0/3
3/3 (100%)	3/3	2/3	1/3	0/3	0/3

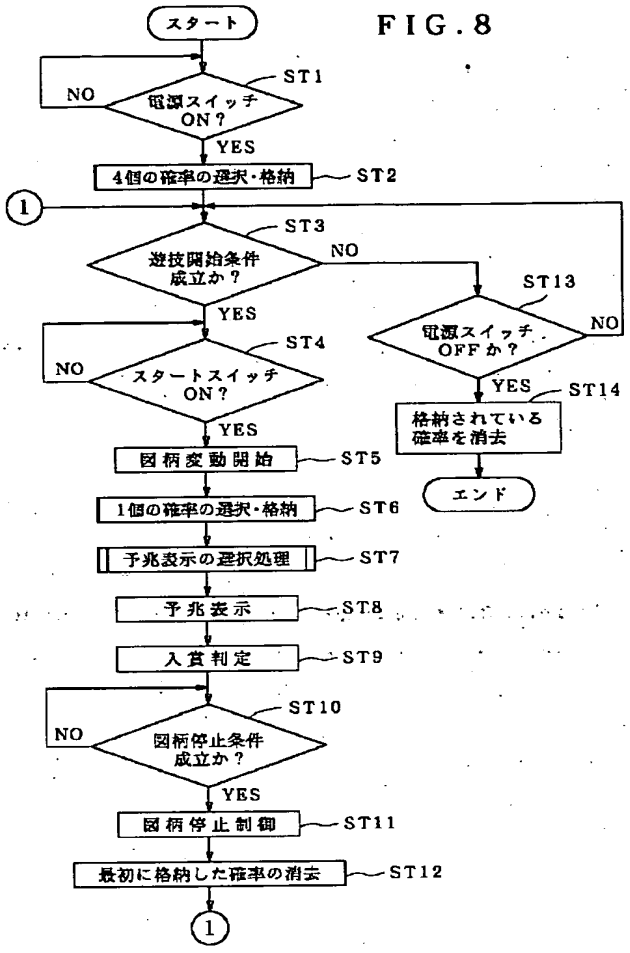
[Drawing 7]

FIG.7

	最初	2番目	3番目	4番目	5番目
	A	B	C	D	E
格納された確率	0/3	2/3	2/3	1/3	3/3
再評価の後確率	0/3	1/3	0/3	0/3	0/3

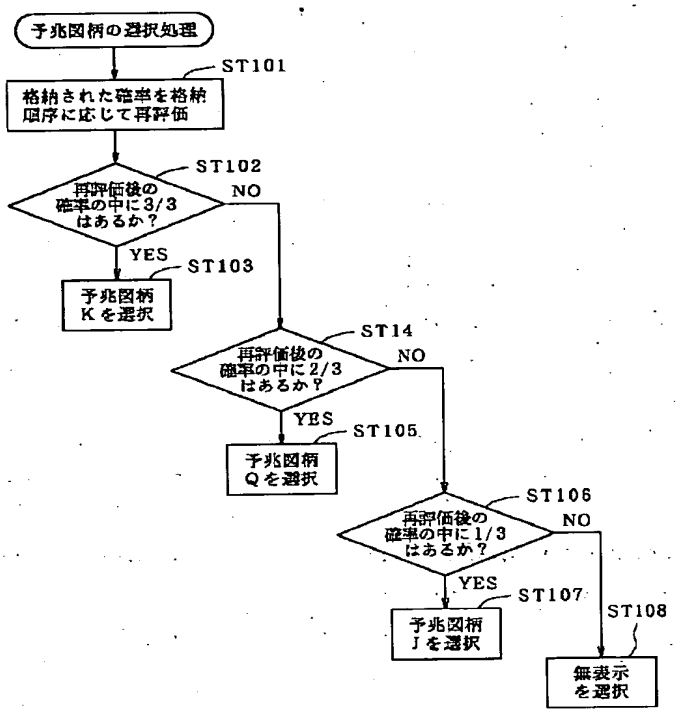
[Drawing 8]

FIG.8



[Drawing 9]

FIG.9



[Drawing 10]

FIG.10

	B	C	D	E	
60 →	1	0	0	1	
	0	1	0	1	
	1	1	1	1	
格納された確率	2/3	2/3	1/3	3/3	

[Drawing 11]

FIG.11

	最初	2番目	3番目	4番目	5番目
	B	C	D	E	F
格子が納められた確率	2/3	2/3	1/3	3/3	2/3
再評価後の確率	2/3	1/3	0/3	0/3	0/3

[Translation done.]